11/326/990

NAUTICAL CHART 11326
GALVESTON BAY
TEXAS

NATIONAL OCEAN SERVICE

MERCATOR PROJECTION AT SCALE 1:80,000
SOUNDINGS IN FEET AT MEAN LOWER LOW WATER
North American Datum of 1983
(World Geodetic System 1984)

HEIGHTS

Heights in feet above Mean High Water.

AUTHORITIES

Hydrography and topography by the National Ocean Service, Charting and Geodetic Services with additional data from the Corps of Engineers, Geological Survey, and U.S. Coast Guard.

Published at Washington, D.C.
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

CAUTION

For bascule bridges, whose spans do not open to a full vertical position, unlimited overhead clearance is not available for the entire charted horizontal clearance when the bridge is open, due to the inclinations of the drawspans over the channel.

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.828" northward and 0.731" westward to agree with this chart.

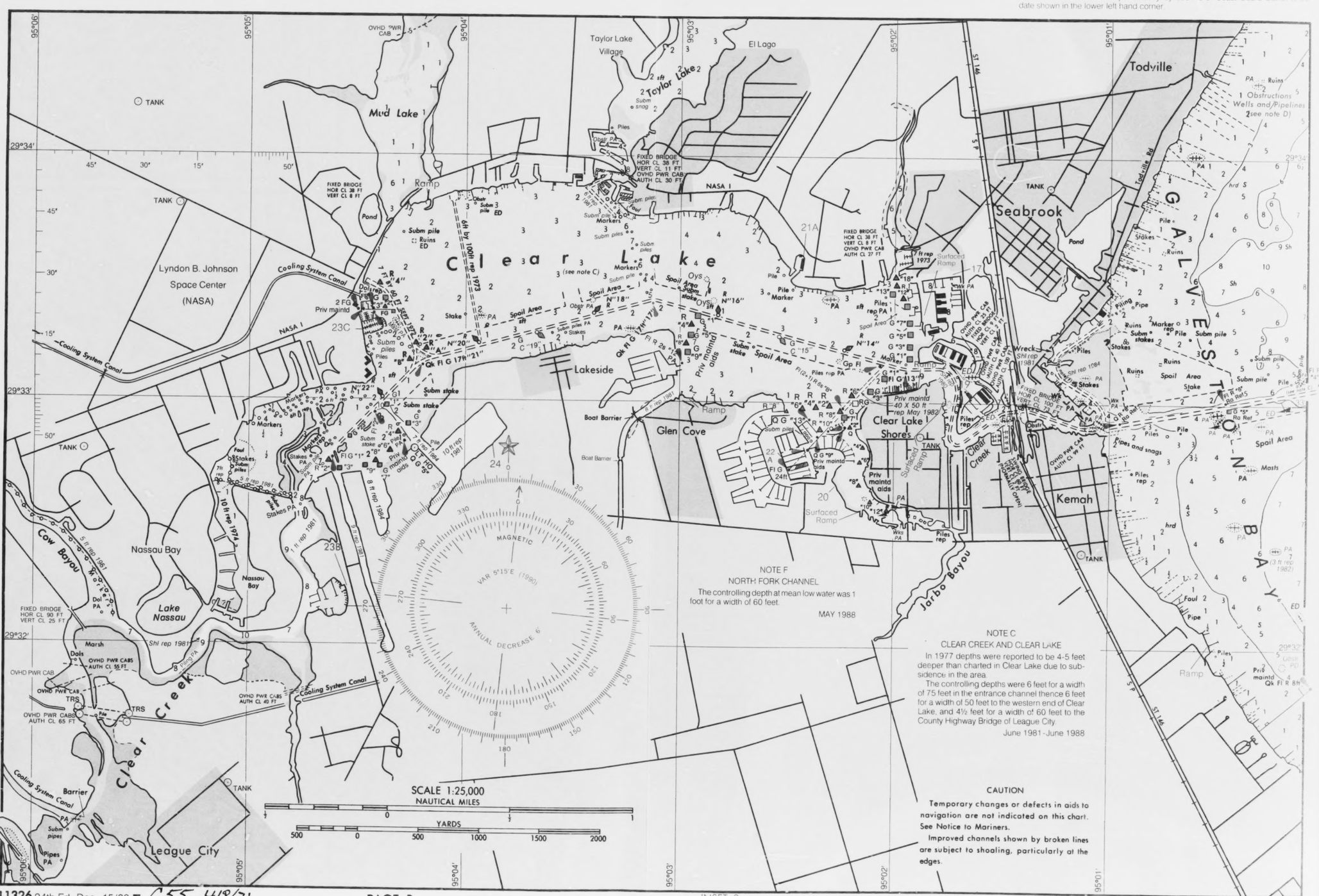
SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 5 for important supplemental information.

Formerly 152-SC 1st Edition

CAUTION

This chart has been corrected from the Notice to Mariners published weekly by the Defense Mapping Agency Hydrographic/Topographic Center and the Local Notice to Mariners issued periodically by each U.S. Coast Guard district to the date shown in the lower left hand corner.



NOTE F

NORTH FORK CHANNEL

The controlling depth at mean low water was 1 foot for a width of 60 feet.

MAY 1988

NOTE C

CLEAR CREEK AND CLEAR LAKE

In 1977 depths were reported to be 4-5 feet deeper than charted in Clear Lake due to subsidence in the area.

The controlling depths were 6 feet for a width of 75 feet in the entrance channel thence 6 feet for a width of 50 feet to the western end of Clear Lake, and 4½ feet for a width of 60 feet to the County Highway Bridge of League City.

June 1981 - June 1988

CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Notice to Mariners.

Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

1964

WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

CAUTION

CHANGES in BUOYAGE

Mariners are advised that authorized aids to navigation are being changed to conform to maritime standards of the International Association of Lighthouse Authorities Maritime Buoyage System, Region B. Significant changes are: black port hand buoys to green; black and white vertically striped buoys to red and white vertically striped buoys; and lateral lights from white to red or green as apporopriate. Changes to aids to navigation will be announced in the Defense Mapping Agency Hydrographic/Topographic Center weekly Notice to Mariners and the U.S. Coast Guard Local Notice to Mariners.

POLLUTION REPORTS

Report all spills of oil and hazardous substances to the National Response Center via 800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

CAUTION

Submerged stakes may exist about 700 feet west of and parallel to the centerline of the Houston Ship Channel between Light 53 and Light 59 and 400 feet east of and parallel to the Houston Ship Channel between Light 90 and red nun buoy N 58.

CAUTION

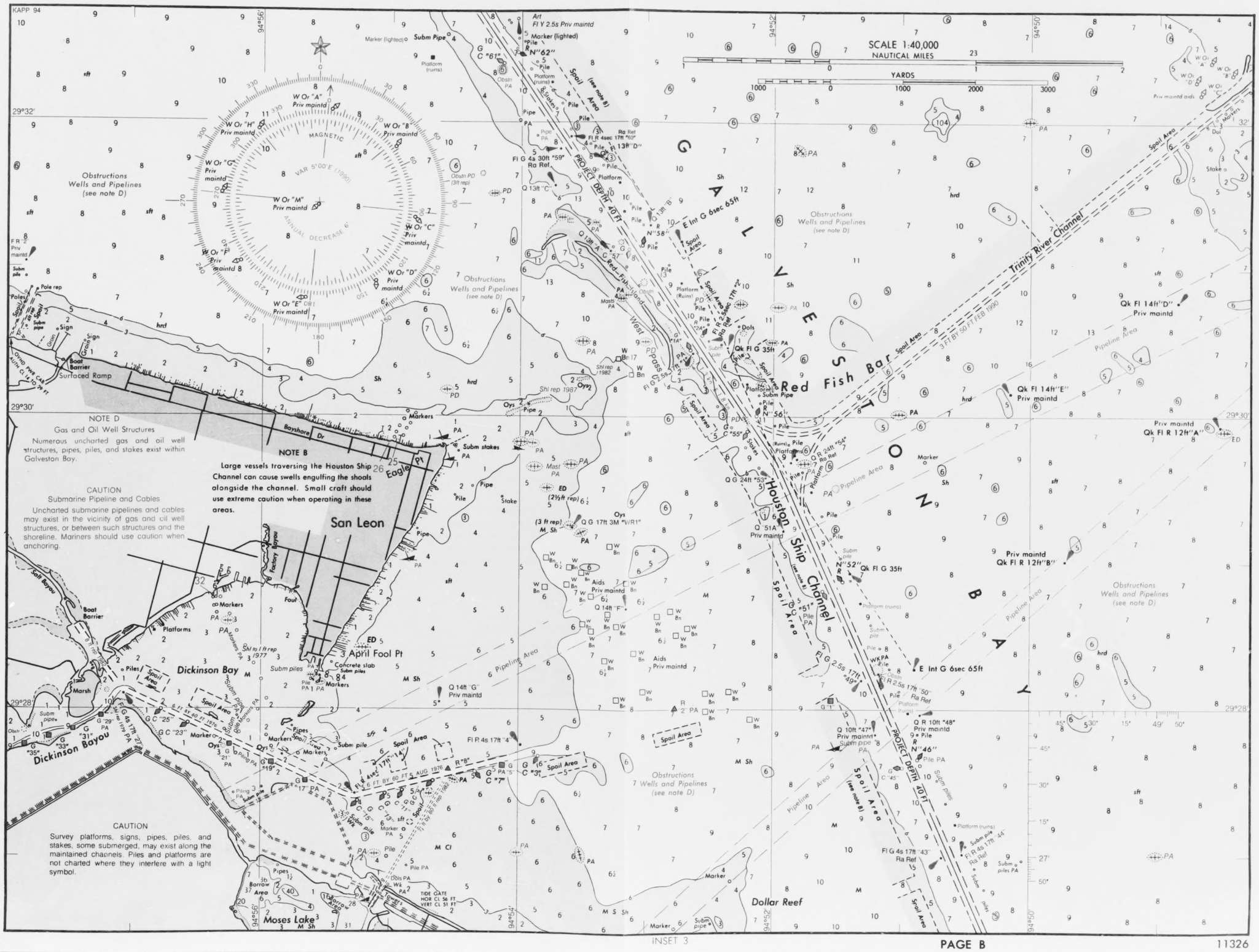
Small craft should stay clear of large commercial and government vessels even if small craft have the right-of-way.

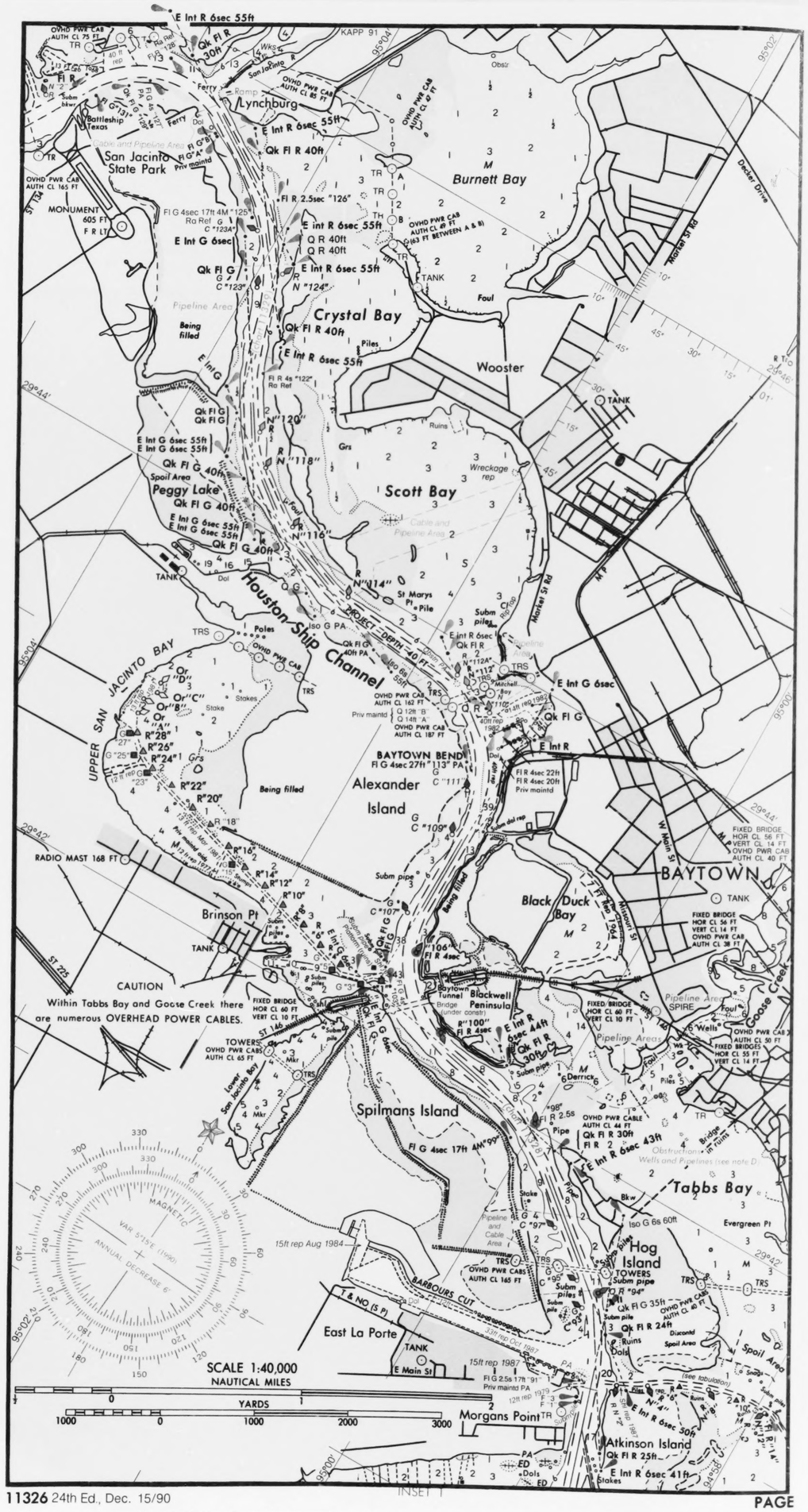
CAUTION

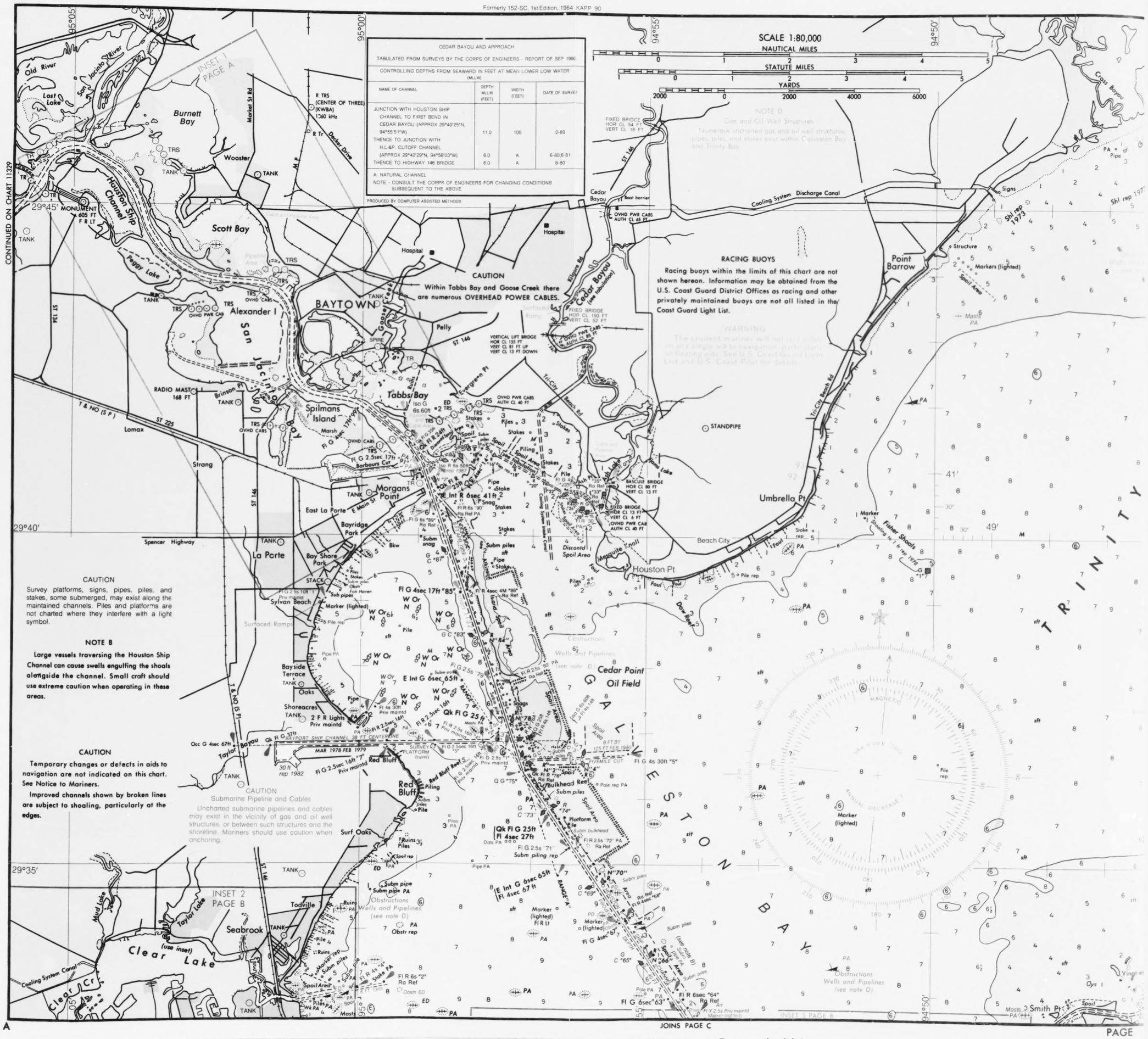
All craft should avoid areas where the skin divers flag, a red square with a diagonal white stripe, is displayed.

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.


KAPP 94
SCALE 1:40,000
NAUTICAL MILES
YARDS
Trinity River Channel
Red Fish Bar
Houston Ship Channel
GALVESTON BAY
Dickinson Bayou
Moses Lake
Dollar Reef
San Leon
April Fool Pt
Eagle Pt
Bayshore Dr
Dickinson Bay
Obstructions Wells and Pipelines (see note D)
Spoil Area
Pipeline Area
PROJECT DEPTH 40 FT
NOTE D
Gas and Oil Well Structures
Numerous uncharted gas and oil well structures, pipes, piles, and stakes exist within Galveston Bay.
CAUTION
Submarine Pipeline and Cables
Uncharted submarine pipelines and cables may exist in the vicinity of gas and oil well structures, or between such structures and the shoreline. Mariners should use caution when anchoring.
NOTE B
Large vessels traversing the Houston Ship Channel can cause swells engulfing the shoals alongside the channel. Small craft should use extreme caution when operating in these areas.
CAUTION
Survey platforms, signs, pipes, piles, and stakes, some submerged, may exist along the maintained channels. Piles and platforms are not charted where they interfere with a light symbol.
INSET 3


Lynchburg
San Jacinto State Park
Battleship Texas
Burnett Bay
Crystal Bay
Wooster
Scott Bay
Peggy Lake
Houston Ship Channel
UPPER SAN JACINTO BAY
Alexander Island
BAYTOWN BEND
Black Duck Bay
BAYTOWN
Brinson Pt
Blackwell Peninsula
Spilmans Island
Tabbs Bay
Hog Island
East La Porte
Morgans Point
Atkinson Island
Goose Creek
Evergreen Pt
Baytown Tunnel
BARBOURS CUT
PROJECT DEPTH 40 FT
CAUTION
Within Tabbs Bay and Goose Creek there are numerous OVERHEAD POWER CABLES.
RADIO MAST 168 FT
MONUMENT 605 FT F R LT
SCALE 1:40,000
NAUTICAL MILES
YARDS
INSET 1


SCALE 1:80,000
NAUTICAL MILES
STATUTE MILES
YARDS
CEDAR BAYOU AND APPROACH
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF SEP 1990
CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)
NAME OF CHANNEL | DEPTH MLLW (FEET) | WIDTH (FEET) | DATE OF SURVEY
JUNCTION WITH HOUSTON SHIP CHANNEL TO FIRST BEND IN CEDAR BAYOU (APPROX 29°40'25"N, 94°55'51"W) | 11.0 | 100 | 2-89
THENCE TO JUNCTION WITH H.L.&P. CUTOFF CHANNEL (APPROX 29°42'29"N, 94°56'03"W) | 6.0 | A | 6-80;6-81
THENCE TO HIGHWAY 146 BRIDGE | 6.0 | A | 8-80
A. NATURAL CHANNEL
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGING CONDITIONS SUBSEQUENT TO THE ABOVE
PRODUCED BY COMPUTER ASSISTED METHODS
CONTINUED ON CHART 11329
INSET 1 PAGE A
INSET 2 PAGE B
INSET 3 PAGE B
JOINS PAGE C
PAGE
RACING BUOYS
Racing buoys within the limits of this chart are not shown hereon. Information may be obtained from the U.S. Coast Guard District Offices as racing and other privately maintained buoys are not all listed in the Coast Guard Light List.
CAUTION
Within Tabbs Bay and Goose Creek there are numerous OVERHEAD POWER CABLES.
CAUTION
Survey platforms, signs, pipes, piles, and stakes, some submerged, may exist along the maintained channels. Piles and platforms are not charted where they interfere with a light symbol.
NOTE B
Large vessels traversing the Houston Ship Channel can cause swells engulfing the shoals alongside the channel. Small craft should use extreme caution when operating in these areas.
CAUTION
Temporary changes or defects in aids to navigation are not indicated on this chart. See Notice to Mariners.
Improved channels shown by broken lines are subject to shoaling, particularly at the edges.
CAUTION
Submarine Pipeline and Cables
Uncharted submarine pipelines and cables may exist in the vicinity of gas and oil well structures, or between such structures and the shoreline. Mariners should use caution when anchoring.
NOTE D
Gas and Oil Well Structures
Numerous uncharted gas and oil well structures, pipes, piles, and stakes exist within Galveston Bay and Trinity Bay.
WARNING
The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.
Houston Ship Channel
Burnett Bay
Scott Bay
Tabbs Bay
Spilmans Island
Morgans Point
Bayridge Park
Bay Shore Park
Sylvan Beach
Bayside Terrace
Shoreacres
Red Bluff
Surf Oaks
Todville
Seabrook
Clear Lake
Taylor Lake
Mud Lake
Clear Cr
Cedar Bayou
Point Barrow
Umbrella Pt
Houston Pt
Beach City
Smith Pt
Cedar Point Oil Field
GALVESTON BAY
TRINITY
Baytown
La Porte
Lomax
Strang
Alexander I
Wooster
Pelly
Todville
Hospital
Spencer Highway
Old River
San Jacinto River
Lost Lake
Peggy Lake
Goose Creek
Jones Lake
Fisher Shoals
Cross Bayou
Cooling System Discharge Canal
Tri-City Beach Rd
Market St Rd
Decker Drive
Kilgore Rd
Greenleaf Pt
Barbours Cut
E Main St
Bayport Ship Channel 38 FT CENTERLINE
MAR 1978-FEB 1979
Red Bluff Reef
Bulkhead Reef
Eastern Tail Reef
Hanna Reef
Middle Ground
Middle Ground Spoil Area
Discontd Spoil Area
Hanna Reef Spoil Area
Eastern Tail Reef Spoil Area
Bulkhead Reef Spoil Area
Red Bluff Reef Spoil Area
Hazard Spoil Area
Dow Reef
Fisher Shoals
Obstructions
Wells and Pipelines
(see note D)
Cooling System Canal
Clear Cr
Spoil Area
Discontd Spoil Area
Surfaced Ramps
Pipeline Area
Surface Ramp
Marsh
Foul
Subm piles
Subm pile
Subm piling rep
Subm bulkhead
Subm pipe
Subm pipe PA
Subm snag
Subm sta
Subm stake
Subm stakes
Subm obstr
Subm pipes
Ruins
Ruins PA
Ruins 3½
Piles
Pile
Pile rep
Pile rep PA
Pipe
Pipe PA
Pipe rep
Stakes
Stake
Stake PA
Snags
Snag
Masts
Masts PA
Mast
Mast PA
Signs
Structure
Markers (lighted)
Marker (lighted)
Marker "I" Standing to 1 ft rep 1978
Shl rep 1973
Shl rep 197
Oys
Oys 1
Vingt-et
Obstr rep
Obstn ED
Platform
Platform PA
Pole rep
Pole rep PA
Stake rep
Spoil rep
Spoil Area
Spoil
Discontd Spoil Area
Hesquite Knoll
Dow Reef
Fisher Shoals
Hanna Reef
Middle Ground
Eastern Tail Reef
Bulkhead Reef
Red Bluff Reef
Hanna Reef Spoil Area
Middle Ground Spoil Area
Eastern Tail Reef Spoil Area
Bulkhead Reef Spoil Area
Red Bluff Reef Spoil Area
Hazard Spoil Area
Discontd Spoil Area
Jones Lake
Taylor Lake
Mud Lake
Clear Lake
Clear Cr
Cooling System Canal
Cedar Bayou
Point Barrow
Umbrella Pt
Houston Pt
Beach City
Smith Pt
Cedar Point Oil Field
Bayport Ship Channel
Tri-City Beach Rd
Market St Rd
Decker Drive
Kilgore Rd
Greenleaf Pt
Barbours Cut
E Main St
Spencer Highway
Lomax
Strang
Alexander I
Wooster
Pelly
Todville
Hospital
Old River
San Jacinto River
Lost Lake
Peggy Lake
Goose Creek
Jones Lake
Fisher Shoals
Cross Bayou
Cooling System Discharge Canal

JOINS EXTENSION BELOW

Nautical Chart Catalog No. 1, Panel M

LAKE ANAHUAC

Anahuac

Belton Lane

NOTE C
CHANNEL TO LIBERTY
The controlling depth was a centerline depth of 4 feet from Anahuac to South Liberty Oil Field, thence 5 feet for a width of 50 feet to Liberty.
Oct 1989 - Jan 1990

KAPP 92

LAKE ANAHUAC

Trinity River

Jacks Pass

Turtle Bay Pass

Browns Pass

Old River Pass

Southwest Pass

Bulkhead Cove

Triangle Pass

Long I Bayou

Cove Bayou

Big Hog Bayou

Smith Bayou

Turtle Bayou

Round Pt

Ash Pt

Black Pt

Eagle Road

Eagle

TANK

Surfaced Ramp

Oak Island

West Fork

East Fork

Lone Oak Bayou

Lake Stephenson

Lake Surprise

Wallis Lake

Windmill

Ditch

Marsh

Mud Flats

Log Boom

Chambers-Liberty Co Nav. District Canal

FM 563

FM 562

ST 61

ST 65

Belton Lane

Kamps

Fl R 4s 17ft "18" Ra Ref

Fl G 2.5s "15" Ra Ref

Fl G 4s "9" Ra Ref

Q 10ft "2" Priv maintd

Fl G 4s "5" Ra Ref

Fl G 2.5s "3" Ra Ref

Fl G 6sec "1"

Snag rep PA

Fl R 4s 17ft 4M "2" Ra Ref

Fl R 4sec 17ft 3M "6" Ra Ref

Fl R 2.5sec 3M "10" Ra Ref

Oak Fl R 3M "16" Ra Ref

Ra Ref PA Platform (ruins)

Shl to 1 ft rep

Subm piles

Subm pipe

Subm Stakes

Subm Log

Fence

Pipes

Markers

Stakes

Stake Pile

Dol

Spoil Area

Spoil Bank

Marker Hospital

OVHD PWR CAB AUTH CL 78 FT

TRINITY RIVER CHANNEL 2½ FT 1979

DOUBLE BAYOU CHANNEL 7 FT BY 125 FT FEB 1987

7 FT BY 100 FT FEB 1987

Obstructions and Pipelines (see note D)

29°48'

29°40'

29°35'

94°45'

94°40'

11326

Formerly 152-SC

NOTE B

Large vessels traversing the Houston Ship Channel can cause swells engulfing the shoals alongside the channel. Small craft should use extreme caution when operating in these areas.

INSET 2 PAGE B

MINERAL DEVELOPMENT STRUCTURES

Obstruction lights and sound (fog) signals are required for fixed mineral development structures shown on this chart, subject to approval by the District Commander, U.S. Coast Guard (33 CFR 67).

CAUTION

SUBMARINE PIPELINES AND CABLES

A selection of the large-submarine pipelines are shown thus: ⟶ ⟶ ⟶

Uncharted submarine pipelines and cables may exist in the vicinity of oil well structures and between such structures and the shoreline. Marines should use caution when anchoring, dragging, or trawling.

WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

NOTE E

The controlling depth in the approach to the Highway Ferry slip at Port Bolivar was 14 feet for a width of 200 feet.

March 1990

CAUTION

Only marine radiobeacons have been calibrated for surface use. Limitations on the use of certain other radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and Defense Mapping Agency Publication 117.

Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.

Station positions are shown thus:

⊙(Accurate location) ○(Approximate location)

AIDS TO NAVIGATION

Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

NOTE I

INTRACOASTAL WATERWAY

Project Depths

12 feet Carrabelle, Fla. to Brownsville, Texas.

The controlling depths are published periodically in the U.S. Coast Guard Local Notice to Mariners.

Distances

The Waterway is indicated by a magenta line. Mileage distances shown along waterway are in Statute Miles, based on zero at Harvey Lock, La. and are indicated thus ⟶

Tables for converting Statute Miles to International Nautical Miles are given in U.S. Coast Pilot 5.

NOTE J

INTRACOASTAL WATERWAY AIDS

The U.S. Aids to Navigation System is designed for use with nautical charts and the exact meaning of an aid to navigation may not be clear unless the appropriate chart is consulted.

Aids to navigation marking the Intracoastal Waterway exhibit unique yellow symbols to distinguish them from aids marking other waterways.

When following the Intracoastal Waterway westward from Carrabelle, Florida to Brownsville, Texas, aids with yellow triangles should be kept on the starboard side of the vessel and aids with yellow squares should be kept on the port side of the vessel.

A horizontal yellow band provides no lateral information, but simply identifies aids to navigation as marking the Intracoastal Waterway.

CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Notice to Mariners.

Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

NOTE F

Numerous submerged piles, pipes, stakes and obstructions are charted on the south side of Texas City Channel.

ARTICULATED AIDS

An articulated aid to navigation consists of a pipe structure that oscillates around a universal coupling connected to a sinker. The structure is kept upright by the buoyancy of a submerged flotation chamber. It is designed primarily to mark narrow channels in depths of up to 60 feet. All articulated aids are labelled *"Art"*.

CAUTION

Survey platforms, signs, pipes, piles, and stakes, some submerged, may exist along the maintained channels. Piles and platforms are not charted where they interfere with a light symbol.

SCALE 1:80,000

NAUTICAL MILES 1 0 1 2 3 4 5

STATUTE MILES 1 0 1 2 3 4 5

YARDS 2000 0 2000 4000 6000

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

INSET 3 PAGE B8

JOINS PAGE A

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 5. Additions or revisions to Chapter 2 are published in the Notices to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 8th Coast Guard District in New Orleans, Louisiana, or at the Office of the District Engineer, Corps of Engineers in Galveston, Texas.
Refer to charted regulation section numbers.

NOTE C

Gas and Oil Well Structures

Numerous uncharted gas and oil well structures, pipes, piles, and stakes exist within Galveston Bay and East Bay.

EAST BAY

GALVESTON BAY

BOLIVAR PENINSULA

GULF OF MEXICO

Lake Surprise

Vingt-et-un Is

Stephenson Pt

Frozen Pt

Mussel Pt

Marsh Pt

Long Point

Gilchrist

Caplen

Rollover

Rollover Bay

Big Pasture Bayou

Yates Bayou

Oyster Bayou

East Bay Bayou

Windmill Ditch

Robinson Bayou

ANAHUAC NATIONAL WILDLIFE REFUGE
(protected area)

INTRACOASTAL WATERWAY
(see notes 1 & 7)

Elmgrove Pt

Crystal Beach

Flake

Bolivar Beach

Ladies Pass

Moodys Pass

Honan Reef

Breakers

Stevens Cove

Baffle Pt

Port Bolivar

Horseshoe Lake

Bolivar Roads

The Lagoon

RADIO TOWER

Pipeline Area

Dumping Ground (Discontinued)

Spoil Area

Obstructions Wells and Pipelines (see note C)

Obstns (7ft rep) Subm pipes (awash at MLLW)

FAIRWAY ANCHORAGE (see note A) 166.200

"COLREGS DEMARCATION LINE" 80.1485 (see note A)

PRECAUTIONARY AREA 167.100 (see note A)

ANCHORAGE AREA 32 FT FEB 1990 110.197 (see note A)

INNER BAR CHAN PROJECT DEPTH 40 FT SEE CHART 11324

OUTER BAR CHAN PROJ DEPTH 42 FT

FAIRWAY CHAN PROJECT DEPTH 45 FT SEE CHART 11324

SAFETY FAIRWAY 166.200 (see note A)

SCALE 1:80,000

NAUTICAL MILES

STATUTE MILES

YARDS

"POC-HI-105-2"

"POC-HI-105-A"

"POC-HI-105-3"

"KCOT-HI-98L-2"

CONTINUED ON CHART 11331

JOINS CHART 11332

78B 78A CONTINUED ON CHART 11324 JOINS CHART 11323 PAGE C JOINS CHART 11332 11326

DETERMINATION OF WIND SPEED FROM SEA CONDITION

Wind Speed (knots)	Wind Description	Sea Conditions	Wind Force (Beaufort)	Probable Wave Height (feet)
0-1	Calm	Sea smooth and mirror-like.	0	-
1-3	Light air	Scale-like ripples without foam crests.	1	¼
4-6	Light breeze	Small, short wavelets; crests have a glassy appearance and do not break.	2	½
7-10	Gentle breeze	Large wavelets; some crests begin to break; foam of glassy appearance. Occasional white foam crests.	3	2
11-16	Moderate breeze	Small waves, becoming longer; fairly frequent white foam crests.	4	4
17-21	Fresh breeze	Moderate waves, taking a more pronounced long form; many white foam crests; there may be some spray.	5	6
22-27	Strong breeze	Large waves begin to form; white foam crests are more extensive everywhere; there may be some spray.	6	10
28-33	Near gale	Sea heaps up and white foam from breaking waves begin to be blown in streaks along the direction of the wind; spindrift begins.	7	14
34-40	Gale	Moderately high waves of greater length; edges of crests break into spindrift; foam is blown in well-marked streaks along the direction of the wind.	8	18

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

RULES OF THE ROAD
(ABRIDGED)

Motorless craft have the right-of-way in almost all cases.
Sailing vessels and motorboats less than sixty-five feet in length, shall not hamper, in a narrow channel, the safe passage of a vessel which can navigate only inside that channel.
A motorboat being overtaken has the right-of-way.
Motorboats approaching head to head or nearly so should pass port to port.
When motorboats approach each other at right angles or obliquely, the boat on the right has the right-of-way in most cases.
Motorboats must keep to the right in narrow channels, when safe and practicable.
Mariners are urged to become familiar with the complete text of the Rules of the Road in U.S. Coast Guard publication "Navigation Rules"

SAFETY HINTS

1. Keep your chart up to date by applying all Notices to Mariners corrections when you receive them.
2. Read carefully all notes printed on your chart, each is vital to your safety afloat.
3. Learn the meaning of each symbol and abbreviation on your chart from Chart No. 1
4. The compass on your chart shows the variation from true north, however you must also correct your bearing for the deviation of your boat.
5. Constantly use your chart from the beginning to end of each trip. Keep in mind the orientation of your boat with respect to the chart.
6. Maintain your position on the chart by relating charted features with those you can identify in your surroundings.

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)

Aids to Navigation (lights are white unless otherwise indicated):

AERO aeronautical	G green	Mo morse code	R TR radio tower
Al alternating	Gp group	N nun	Rot rotating
B black	IQ interrupted quick	OBSC obscured	s seconds
Bn beacon	Iso isophase (E Int)	Oc occulting	SEC sector
C can	LT HO lighthouse	Or orange	St M statute miles
DIA diaphone	M nautical mile	Q quick	VQ very quick
E Int equal interval (Iso)	m minutes	R red	W white
F fixed	MICRO TR microwave tower	Ra Ref radar reflector	WHIS whistle
Fl flashing	Mkr marker	R Bn radiobeacon	Y yellow

Bottom characteristics:

Blds boulders	Co coral	Gy gray	Oys oysters	so soft
bk broken	G gravel	h hard	Rk rock	Sh shells
Cy clay	Grs grass	M mud	S sand	sy sticky

Miscellaneous:

AUTH authorized	Obstn obstruction	PD position doubtful	Subm submerged
ED existence doubtful	PA position approximate	Rep reported	

21 Wreck, rock, obstruction, or shoal swept clear to the depth indicated.
(2) Rocks that cover and uncover, with heights in feet above datum of soundings.
COLREGS: International Regulations for Preventing Collisions at Sea, 1972.
Demarcation lines are shown thus: _ _ _ _ _ _ _ _ _

FACILITIES

Locations of public marine facilities are shown by large magenta numbers with leaders and refer to the facility tabulation.

GALVESTON SOUTH JETTY LIGHT

GALVESTON (Galveston Channel), TEXAS

Predicted times and heights of high and low water-Central Standard Time. For Daylight Saving time, add 1 hour.
To predict local tide, apply the time difference listed in the facility tabulations to these tide predictions.

JANUARY 1991

Day	Time h.m.	Ht. ft.	Day	Time h.m.	Ht. ft.
1	0203	1.1	16	0212	0.8
Tu	1024	-1.0	W	1022	-0.6
	1834	1.3		1828	1.0
	2342	0.9		2323	0.7
2	0312	1.1	17	0300	0.9
W	1113	-0.9	Th	1054	-0.5
	1912	1.2		1947	0.9
				2348	0.6
3	0024	0.8	18	0353	0.8
Th	0418	1.0	F	1130	-0.4
	1202	-0.6		1901	0.9
	1941	1.1			
4	0106	0.6	19	0020	0.5
F	0532	0.9	Sa	0458	0.8
	1248	-0.3		1206	-0.3
	2006	1.0		1912	0.8
5	0155	0.4	20	0052	0.3
Sa	0658	0.7	Su	0612	0.7
	1334	0.0		1243	0.0
	2024	0.9		1921	0.8
6	0249	0.2	21	0137	0.1
Su	0842	0.7	M	0746	0.7
	1421	0.3		1327	0.2
	2036	0.8		1931	0.8
7	0345	0.0	22	0231	-0.1
M	1055	0.7	Tu	0943	0.7
	1524	0.5		1424	0.5
	2045	0.8		1942	0.8
8	0445	-0.2	23	0331	-0.3
Tu	1305	0.8	W	1156	0.8
	1658	0.7		1557	0.7
	2053	0.8		1950	0.8
9	0537	-0.3	24	0434	-0.5
W	1442	0.9	Th	1339	1.0
10	0627	-0.4	25	0540	-0.7
Th	1531	1.0	F	1445	1.2
11	0717	-0.5	26	0641	-0.9
F	1609	1.0	Sa	1533	1.2
12	0803	-0.5	27	0742	-1.0
Sa	1644	1.1	Su	1615	1.3
				2127	0.8
13	0843	-0.6	28	0003	0.9
Su	1713	1.1	M	0835	-1.0
	2224	0.7		1651	1.3
				2155	0.8
14	0027	0.8	29	0126	1.0
M	0918	-0.6	Tu	0927	-1.0
	1742	1.1		1723	1.2
	2243	0.7		2224	0.7
15	0119	0.8	30	0235	1.0
Tu	0951	-0.6	W	1015	-0.8
	1807	1.0		1748	1.1
	2301	0.7		2259	0.5
			31	0341	1.0
			Th	1059	-0.6
				1813	1.0
				2334	0.4

FEBRUARY 1991

Day	Time h.m.	Ht. ft.	Day	Time h.m.	Ht. ft.
1	0447	0.9	16	0431	0.9
F	1143	-0.3	Sa	1114	-0.1
	1832	0.9		1742	0.8
				2331	0.2
2	0016	0.2	17	0537	0.9
Sa	0557	0.8	Su	1149	0.1
	1225	-0.1		1749	0.8
	1842	0.8			
3	0059	0.0	18	0006	0.0
Su	0717	0.8	M	0651	0.9
	1300	0.2		1231	0.4
	1852	0.8		1759	0.8
4	0143	-0.1	19	0055	-0.2
M	0853	0.7	Tu	0818	0.9
	1342	0.5		1321	0.6
	1854	0.8		1804	0.9
5	0239	-0.2	20	0149	-0.3
Tu	1103	0.7	W	1011	1.0
	1425	0.6		1424	0.8
	1855	0.8		1812	0.9
6	0339	-0.3	21	0253	-0.4
W	1334	0.8	Th	1217	1.1
	1621	0.7			
	1821	0.8			
7	0446	-0.3	22	0409	-0.5
Th	1443	0.9	F	1337	1.2
8	0551	-0.4	23	0523	-0.6
F	1521	1.0	Sa	1433	1.3
9	0649	-0.4	24	0631	-0.7
Sa	1548	1.0	Su	1512	1.3
				2039	0.9
				2259	1.0
10	0742	-0.5	25	0734	-0.7
Su	1614	1.0	M	1544	1.3
	2130	0.7		2051	0.8
	2336	0.8			
11	0821	-0.5	26	0041	1.0
M	1638	1.0	Tu	0829	-0.6
	2141	0.7		1609	1.2
				2120	0.7
12	0052	0.8	27	0159	1.1
Tu	0857	-0.5	W	0918	-0.5
	1657	1.0		1631	1.1
	2153	0.7		2148	0.5
13	0145	0.9	28	0307	1.1
W	0931	-0.5	Th	1003	-0.3
	1711	1.0		1646	1.0
	2212	0.6		2220	0.3
14	0240	0.9			
Th	1003	-0.4			
	1726	0.9			
	2230	0.5			
15	0333	0.9			
F	1039	-0.3			
	1734	0.9			
	2255	0.3			

MARCH 1991

Day	Time h.m.	Ht. ft.	Day	Time h.m.	Ht. ft.
1	0409	1.1	16	0402	1.2
F	1045	0.0	Sa	1027	0.3
	1700	1.0		1615	1.0
	2254	0.1		2218	0.1
2	0512	1.1	17	0502	1.3
Sa	1125	0.2	Su	1106	0.5
	1710	0.9		1621	1.0
	2331	0.0		2253	-0.1
3	0616	1.1	18	0605	1.3
Su	1200	0.5	M	1152	0.7
	1718	0.9		1629	1.0
				2336	-0.2
4	0008	-0.1	19	0717	1.3
M	0725	1.0	Tu	1238	0.9
	1239	0.7		1637	1.1
	1723	0.9			
5	0051	-0.1	20	0022	-0.3
Tu	0851	1.0	W	0839	1.3
	1318	0.8		1339	1.1
	1724	1.0		1648	1.2
6	0137	-0.1	21	0125	-0.3
W	1042	1.0	Th	1023	1.4
	1357	0.9			
	1718	1.0			
7	0237	-0.1	22	0231	-0.3
Th	1319	1.0	F	1159	1.4
8	0354	-0.1	23	0346	-0.3
F	1406	1.1	Sa	1305	1.4
9	0509	-0.1	24	0507	-0.3
Sa	1438	1.1	Su	1348	1.4
				1942	1.0
				2148	1.1
10	0614	-0.1	25	0619	-0.2
Su	1503	1.2	M	1420	1.4
				1954	0.9
				2356	1.1
11	0706	-0.1	26	0721	-0.1
M	1521	1.2	Tu	1442	1.3
	2038	0.9		2018	0.7
	2358	1.0			
12	0752	-0.2	27	0126	1.2
Tu	1536	1.1	W	0818	0.0
	2046	0.8		1504	1.4
				2043	0.5
13	0111	1.0	28	0235	1.3
W	0831	-0.1	Th	0907	0.2
	1551	1.1		1518	1.2
	2101	0.7		2112	0.3
14	0206	1.1	29	0337	1.4
Th	0909	0.0	F	0953	0.4
	1559	1.1		1530	1.1
	2123	0.5		2147	0.1
15	0306	1.2	30	0437	1.4
F	0948	0.1	Sa	1035	0.6
	1607	1.0		1539	1.1
	2148	0.3		2216	0.0
			31	0533	1.4
			Su	1115	0.8
				1547	1.1
				2251	0.0

APRIL 1991

Day	Time h.m.	Ht. ft.	Day	Time h.m.	Ht. ft.
1	0627	1.4	16	0626	1.7
M	1157	1.0	Tu	1200	1.2
	1549	1.1		1520	1.3
	2327	-0.1		2315	-0.3
2	0727	1.4	17	0734	1.7
Tu	1233	1.1	W	1259	1.2
	1559	1.2		1531	1.3
3	0005	0.0	18	0007	-0.4
W	0830	1.3	Th	0847	1.7
	1315	1.1			
	1557	1.2			
4	0051	0.0	19	0107	-0.3
Th	1006	1.3	F	1007	1.6
5	0146	0.1	20	0213	-0.2
F	1151	1.3	Sa	1118	1.6
6	0253	0.2	21	0330	-0.1
Sa	1253	1.3	Su	1207	1.5
7	0409	0.2	22	0445	0.1
Su	1318	1.3	M	1243	1.5
				1843	0.9
				2300	1.1
8	0518	0.2	23	0557	0.3
M	1347	1.3	Tu	1311	1.4
	1940	0.9		1911	0.7
	2227	1.0			
9	0617	0.2	24	0045	1.2
Tu	1358	1.3	W	0707	0.4
	1941	0.9		1329	1.3
				1940	0.5
10	0012	1.1	25	0205	1.4
W	0713	0.3	Th	0808	0.6
	1414	1.2		1344	0.9
	1950	0.7		2012	0.3
11	0126	1.2	26	0311	1.5
Th	0803	0.4	F	0901	0.8
	1424	1.2		1355	1.2
	2011	0.5		2043	0.1
12	0227	1.4	27	0407	1.6
F	0848	0.5	Sa	0953	1.0
	1432	1.2		1403	1.2
	2036	0.3		2115	0.0
13	0326	1.5	28	0459	1.6
Sa	0934	0.6	Su	1043	1.1
	1440	1.1		1413	1.2
	2111	0.1		2147	-0.1
14	0425	1.6	29	0548	1.6
Su	1021	0.8	M	1125	1.1
	1452	1.2		1418	1.2
	2147	-0.1		2223	-0.1
15	0524	1.7	30	0637	1.6
M	1110	1.0	Tu	1204	1.2
	1501	1.2		1425	1.3
	2229	-0.3		2254	-0.1

MAY 1991

Day	Time h.m.	Ht. ft.	Day	Time h.m.	Ht. ft.
1	0725	1.5	16	0736	1.8
W	2333	0.0	Th	2356	-0.5
2	0818	1.5	17	0833	1.7
Th			F		
3	0015	0.0	18	0052	-0.3
F	0927	1.4	Sa	0929	1.6
4	0104	0.1	19	0155	-0.1
Sa	1024	1.4	Su	1014	1.5
				1633	1.0
				1909	1.1
5	0157	0.2	20	0300	0.1
Su	1116	1.4	M	1051	1.4
				1718	0.8
				2136	1.0
6	0301	0.3	21	0412	0.4
M	1148	1.4	Tu	1119	1.3
				1757	0.6
				2348	1.1
7	0412	0.4	22	0531	0.6
Tu	1207	1.3	W	1141	1.2
	1827	0.9		1832	0.3
	2240	1.0			
8	0521	0.5	23	0130	1.2
W	1221	1.3	Th	0654	0.8
	1839	0.7		1159	1.2
				1909	0.1
9	0029	1.1	24	0244	1.4
Th	0630	0.6	F	0804	1.0
	1236	1.2		1210	1.2
	1900	0.5		1944	-0.1
10	0143	1.3	25	0340	1.5
F	0736	0.8	Sa	0918	1.1
	1245	1.2		1220	1.2
	1929	0.2		2020	-0.2
11	0249	1.5	26	0432	1.6
Sa	0838	0.9	Su	1021	1.1
	1257	1.2		1222	1.2
	2004	-0.1		2052	-0.2
12	0347	1.7	27	0517	1.6
Su	0935	1.0	M	2127	-0.2
	1312	1.2			
	2043	-0.3			
13	0440	1.8	28	0559	1.6
M	1031	1.0	Tu	2202	-0.2
	1331	1.3			
	2125	-0.4			
14	0539	1.8	29	0638	1.5
Tu	1124	1.2	W	2237	-0.2
	1355	1.3			
	2214	-0.5			
15	0635	1.8	30	0717	1.5
W	1218	1.3	Th	2312	-0.1
	1427	1.4			
	2302	-0.5			
			31	0757	1.4
			F	2347	-0.1

JUNE 1991

Day	Time h.m.	Ht. ft.	Day	Time h.m.	Ht. ft.
1	0833	1.4	16	0038	-0.3
Sa			Su	0831	1.5
				1424	0.9
				1808	1.0
2	0027	0.0	17	0128	0
Su	0908	1.4	M	0903	1.3
				1520	0.7
3	0112	0.1	18	0224	0.3
M	0939	1.3	Tu	0927	1.2
				1615	0.4
				2217	0.9
4	0200	0.3	19	0334	0.6
Tu	1001	1.2	W	0945	1.2
	1639	0.8		1704	0.2
	2023	0.9			
5	0259	0.5	20	0027	1.1
W	1019	1.2	Th	0459	0.9
	1701	0.6		0957	1.1
	2255	0.9		1751	0.0
6	0415	0.7	21	0207	1.2
Th	1032	1.1	F	0652	1.0
	1733	0.3		1003	1.1
				1834	-0.2
7	0044	1.1	22	0315	1.4
F	0551	0.8	Sa	1917	-0.3
	1044	1.1			
	1815	0.1			
8	0204	1.3	23	0405	1.5
Sa	0721	1.0	Su	1959	-0.3
	1059	1.1			
	1855	-0.2			
9	0307	1.5	24	0443	1.5
Su	0839	1.1	M	2038	-0.4
	1117	1.2			
	1937	-0.4			
10	0403	1.7	25	0521	1.5
M	2027	-0.6	Tu	2114	-0.4
11	0452	1.8	26	0553	1.5
Tu	2113	-0.7	W	2149	-0.3
12	0544	1.8	27	0624	1.4
W	2204	-0.8	Th	2221	-0.3
13	0633	1.8	28	0651	1.4
Th	1201	1.2	F	2256	-0.3
	1421	1.3			
	2252	-0.7			
14	0717	1.7	29	0715	1.4
F	1246	1.2	Sa	1254	1.0
	1523	1.3		1454	1.1
	2345	-0.6		2325	-0.2
15	0759	1.6	30	0736	1.3
Sa	1335	1.1	Su	1327	0.9
	1639	1.2		1556	1.0

JULY 1991

Day	Time h.m.	Ht. ft.	Day	Time h.m.	Ht. ft.
1	0000	-0.1	16	0100	0.2
M	0758	1.2	Tu	0746	1.2
	1355	0.8		1424	0.3
	1712	0.9		2029	1.0
2	0034	0.1	17	0151	0.6
Tu	0813	1.2	W	0757	1.2
	1427	0.7		1511	0.1
	1848	0.8		2242	1.0
3	0115	0.3	18	0247	0.9
W	0821	1.1	Th	0852	1.1
	1506	0.5		1610	0.0
	2057	0.8			
4	0206	0.6	19	0109	1.1
Th	0831	1.1	F	0424	1.0
	1554	0.2		0751	1.1
	2318	0.9		1707	-0.1
5	0322	0.8	20	0242	1.3
F	0839	1.1	Sa	1803	-0.2
	1640	0.0			
6	0118	1.2	21	0328	1.4
Sa	0512	1.0	Su	1856	-0.3
	0850	1.1			
	1734	-0.3			
7	0227	1.4	22	0406	1.4
Su	1827	-0.5	M	1942	-0.3
8	0319	1.5	23	0434	1.4
M	1923	-0.7	Tu	2025	-0.3
9	0408	1.7	24	0506	1.4
Tu	2014	-0.8	W	2102	-0.3
10	0451	1.7	25	0525	1.4
W	2107	-0.8	Th	1057	1.0
				1259	1.1
				2134	-0.3
11	0531	1.7	26	0546	1.4
Th	1053	1.2	F	1112	1.0
	1333	1.3		1358	1.1
	2157	-0.8		2206	-0.2
12	0606	1.6	27	0605	1.4
F	1122	1.1	Sa	1130	1.0
	1449	1.3		1451	1.1
	2243	-0.6		2234	-0.1
13	0638	1.5	28	0623	1.3
Sa	1200	1.0	Su	1145	0.9
	1602	1.2		1546	1.1
	2332	-0.4		2306	0.0
14	0706	1.4	29	0631	1.3
Su	1243	0.8	M	1210	0.8
	1719	1.1		1645	1.0
				2338	0.2
15	0018	-0.1	30	0642	1.2
M	0728	1.3	Tu	1242	0.6
	1331	0.5		1800	1.0
	1847	1.0			
			31	0010	0.4
			W	0646	1.2
				1321	0.4
				1930	1.0

AUGUST 1991

Day	Time h.m.	Ht. ft.	Day	Time h.m.	Ht. ft.
1	0045	0.6	16	0154	1.1
Th	0652	1.2	F	0617	1.3
	1403	0.2		1519	0.1
	2119	1.0			
2	0128	0.9	17	0430	1.3
F	0700	1.2	Sa	1625	0.0
	1500	0.0			
	2350	1.2			
3	0236	1.1	18	0254	1.5
Sa	0858	1.2	Su	1729	0.0
	1600	-0.1			
4	0142	1.4	19	0321	1.5
Su	1706	-0.3	M	1830	0.0
5	0240	1.5	20	0341	1.5
M	1812	-0.5	Tu	1922	0.0
6	0317	1.7	21	0403	1.5
Tu	1912	-0.6	W	2003	0.0
7	0355	1.7	22	0422	1.5
W	2004	-0.6	Th	0949	1.2
				1233	1.3
				2040	0.0
8	0427	1.7	23	0436	1.5
Th	0942	1.2	F	0957	1.1
	1249	1.4		1335	1.3
	2100	-0.6		2115	0.0
9	0456	1.6	24	0451	1.5
F	1007	1.1	Sa	1009	1.0
	1409	1.4		1430	1.3
	2146	-0.4		2148	0.1
10	0521	1.6	25	0502	1.4
Sa	1043	0.9	Su	1031	0.9
	1521	1.4		1526	1.3
	2235	-0.2		2217	0.3
11	0543	1.5	26	0510	1.4
Su	1115	0.7	M	1049	0.8
	1634	1.3		1623	1.3
	2316	0.1		2249	0.4
12	0601	1.4	27	0516	1.4
M	1157	0.5	Tu	1118	0.6
	1747	1.3		1723	1.3
	2358	0.4		2321	0.6
13	0614	1.3	28	0521	1.3
Tu	1239	0.3	W	1153	0.4
	1908	1.2		1832	1.3
14	0037	0.7	29	0001	0.9
W	0619	1.3	Th	0526	1.4
	1326	0.2		1231	0.3
	2044	1.2		1954	1.4
15	0112	1.0	30	0037	1.1
Th	0627	1.3	F	0530	1.4
	1415	0.1		1322	0.1
	2301	1.2		2151	1.4
			31	0119	1.3
			Sa	0538	1.5
				1422	0.0

SEPTEMBER 1991

Day	Time h.m.	Ht. ft.	Day	Time h.m.	Ht. ft.
1	0005	1.5	16	0215	1.6
Su	0258	1.4	M	1649	0.3
	0524	1.5			
	1532	-0.1			
2	0131	1.7	17	0232	1.6
M	1646	-0.1	Tu	1754	0.3
3	0220	1.8	18	0250	1.7
Tu	1756	-0.2	W	1848	0.3
4	0248	1.8	19	0305	1.6
W	1858	-0.2	Th	0845	1.3
				1138	1.4
				1932	0.3
5	0317	1.8	20	0319	1.6
Th	0838	1.3	F	0846	1.2
	1202	1.5		1255	1.4
	1957	-0.1		2011	0.4
6	0342	1.7	21	0331	1.6
F	0900	1.2	Sa	0858	1.1
	1331	1.5		1401	1.5
	2048	0.0		2049	0.5
7	0400	1.7	22	0338	1.6
Sa	0932	1.0	Su	0920	0.9
	1445	1.6		1457	1.5
	2137	0.2		2125	0.6
8	0419	1.6	23	0347	1.5
Su	1003	0.7	M	0943	0.8
	1554	1.6		1553	1.6
	2219	0.5		2203	0.8
9	0433	1.5	24	0352	1.5
M	1039	0.5	Tu	1008	0.6
	1701	1.6		1649	1.7
	2304	0.7		2242	1.0
10	0443	1.5	25	0400	1.5
Tu	1114	0.4	W	1040	0.4
	1807	1.6		1748	1.7
	2343	1.0		2321	1.2
11	0451	1.5	26	0405	1.5
W	1155	0.3	Th	1116	0.2
	1919	1.6		1857	1.7
12	0019	1.2	27	0000	1.4
Th	0456	1.5	F	0413	1.6
	1237	0.2		1202	0.1
	2046	1.5		2020	1.7
13	0054	1.4	28	0048	1.5
F	0457	1.5	Sa	0421	1.6
	1327	0.2		1254	0.1
	2256	1.5		2156	1.8
14	0130	1.4	29	0157	1.6
Sa	0447	1.5	Su	0425	1.7
	1423	0.3		1400	0.1
				2342	1.8
15	0142	1.6	30	1511	0.1
Su	1534	0.3	M		

OCTOBER 1991

Day	Time h.m.	Ht. ft.	Day	Time h.m.	Ht. ft.
1	0045	1.9	16	0112	1.7
Tu	1627	0.1	W	1658	0.5
2	0124	1.9	17	0130	1.6
W	1740	0.2	Th	1757	0.6
3	0153	1.8	18	0145	1.6
Th	0734	1.4	F	0742	1.2
	1108	1.5		1154	1.4
	1845	0.3		1850	0.6
4	0218	1.8	19	0156	1.6
F	0756	1.2	Sa	0746	1.0
	1249	1.6		1312	1.4
	1944	0.4		1942	0.7
5	0236	1.7	20	0204	1.5
Sa	0826	0.9	Su	0808	0.8
	1410	1.6		1417	1.6
	2036	0.6		2025	0.8
6	0251	1.6	21	0212	1.5
Su	0855	0.7	M	0833	0.6
	1520	1.7		1516	1.7
	2129	0.8		2114	1.0
7	0304	1.6	22	0219	1.5
M	0930	0.5	Tu	0858	0.4
	1624	1.8		1612	1.8
	2215	1.0		2157	1.1
8	0315	1.5	23	0230	1.5
Tu	1006	0.3	W	0933	0.2
	1723	1.8		1708	1.9
	2254	1.2		2242	1.3
9	0323	1.5	24	0240	1.5
W	1041	0.2	Th	1012	0.0
	1822	1.8		1809	1.9
	2334	1.4		2326	1.4
10	0332	1.6	25	0256	1.6
Th	1117	0.2	F	1055	-0.1
	1924	1.8		1912	1.9
11	0013	1.5	26	0018	1.5
F	0339	1.6	Sa	0317	1.6
	1159	0.2		1147	-0.1
	2044	1.7		2027	1.9
12	0048	1.5	27	0114	1.6
Sa	0344	1.6	Su	0336	1.7
	1245	0.3		1241	-0.1
	2213	1.7		2143	1.8
13	1339	0.3	28	1343	0.0
Su	2357	1.7	M	2250	1.8
14	1440	0.4	29	1449	0.1
M			Tu	2336	1.8
15	0051	1.7	30	1604	0.2
Tu	1550	0.5	W		
			31	0015	1.7
			Th	0613	1.2
				0954	1.3
				1717	0.4

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Day	Time h.m.	Ht. ft.	Day	Time h.m.	Ht. ft.
1	0041	1.6	16	0004	1.3
F	0647	1.4	Sa	0625	0.8
	1202	1.4		1204	1.6
	1826	0.6		1801	0.7
2	0102	1.5	17	0017	1.3
Sa	0719	0.7	Su	0654	0.6
	1334	1.5		1329	1.3
	1933	0.8		1809	0.8
3	0118	1.5	18	0025	1.2
Su	0752	0.4	M	0716	0.3
	1448	1.6		1435	1.4
	2034	1.0		2011	1.0
4	0132	1.4	19	0039	1.2